

FCC TEST REPORT

For

Umigo Technology Ltd.

LED Remote Control

Model No.: L10, L20, L30, L40, M1319-16IN-DIG

Prepared For : Umigo Technology Ltd.
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District, Guangzhou City, China

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TEST REPORT

Applicant : Umigo Technology Ltd.
Manufacturer : Umigo Technology Ltd.
Product Name : LED Remote Control
Model No. : L10, L20, L30, L40, M1319-16IN-DIG
Trade Mark : N/A
Rating(s) : DC 5V, 50mA (With DC 3.7V, 250mAh Battery inside)

Test Standard(s) : FCC Part15 Subpart C 2016, Section 15.231

Test Method(s) : ANSI C63.10: 2013

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Test : Sept. 23~27, 2017

Prepared by :



Winkey Wang

(Tested Engineer / Winkey Wang)

Reviewer :

Tangcy. T.

(Project Manager / Tangcy. T)

Approved & Authorized Signer :

Tom Chen

(Manager / Tom Chen)

1. General Information

1.1. Client Information

Applicant	:	Umigo Technology Ltd.
Address	:	1-2/F, Xinxi Jing Ji She 23-1, Xinzhuang Village Furong Dadao, Huadu District, Guangzhou City, China
Manufacturer	:	Umigo Technology Ltd.
Address	:	1-2/F, Xinxi Jing Ji She 23-1, Xinzhuang Village Furong Dadao, Huadu District, Guangzhou City, China

1.2. Description of Device (EUT)

Product Name	:	LED Remote Control	
Model No.	:	L10, L20, L30, L40, M1319-16IN-DIG (Note: All samples are the same except the model number and colour, so we prepare "L10" for test only.)	
Trade Mark	:	N/A	
Test Power Supply	:	AC 120V, 60Hz for adapter/AC 240V, 60Hz for adapter DC 3.7V Battery inside	
Product Description	:	Operation Frequency:	433.92MHz
		Number of Channel:	1 Channels
		Modulation Type:	ASK
		Antenna Type:	Coil Antenna
		Antenna Gain(Peak):	1 dbi
Remark: 1)For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.			

1.3. Auxiliary Equipment Used During Test

Adapter	:	Manufacturer: ZTE M/N: STC-A2050I1000USBA-C S/N: 201202102100876 Input: 100-240V~50/60Hz 0.3A Output: DC 5V, 1000mA
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1.4. Description of Test Modes

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Keeping TX Mode

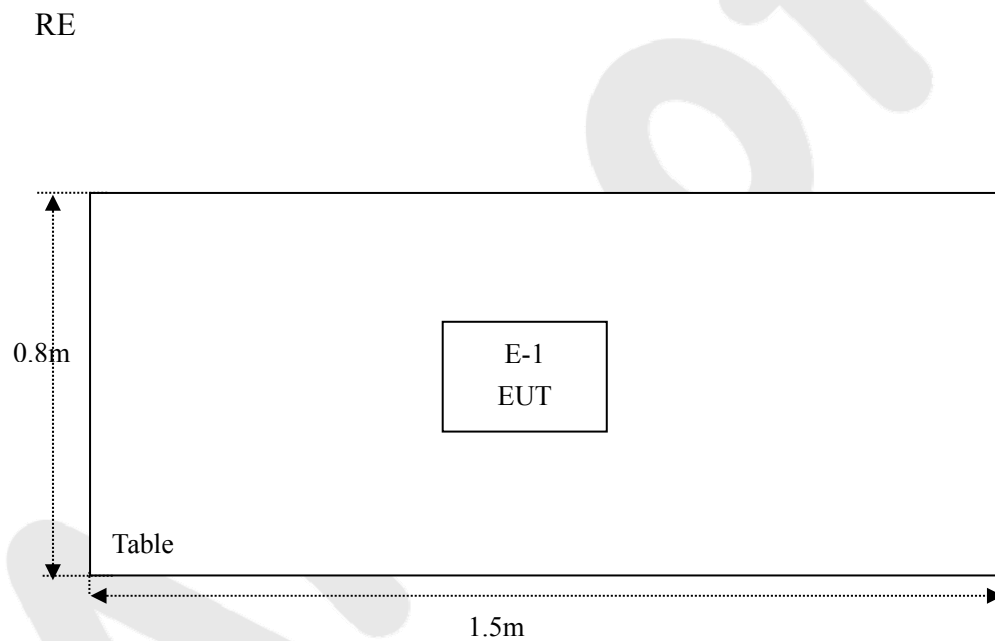
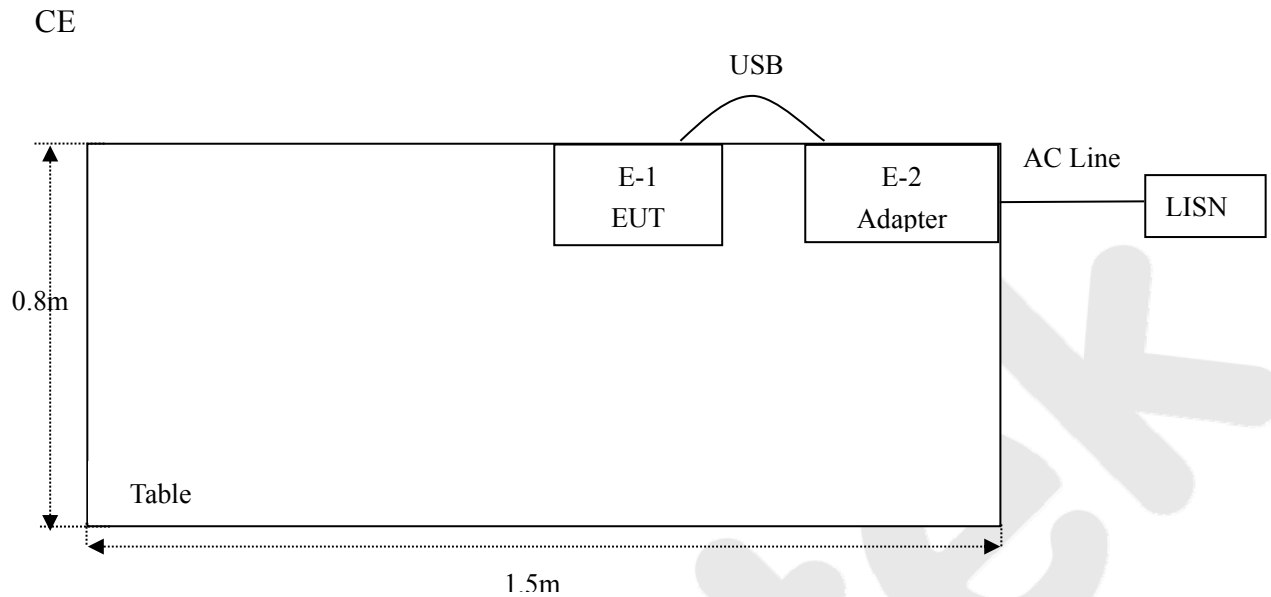
For Radiated Emission	
Final Test Mode	Description
Mode 1	Keeping TX Mode

Note: During the test, the EUT was keeping continuous transmission.

1.5. List of channels

Channel	Freq. (MHz)	Note (Modulation Type)
01	433.92	ASK

1.6. Description Of Test Setup



1.7. Test Equipment List

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	May 27, 2017	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	May 27, 2017	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	May 27, 2017	1 Year
4.	Spectrum Analysis	Agilent	E4407B	US39390582	May 27, 2017	1 Year
5.	Preamplifier	SKET Electronic	BK1G18G30 D	KD17503	May 27, 2017	1 Year
6.	EMI Test Receiver	Rohde & Schwarz	ESPI	101604	May 27, 2017	1 Year
7.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	May 31, 2017	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	May 31, 2017	1 Year
9.	Loop Antenna	Schwarzbeck	HFH2-Z2	100047	Apr. 03, 2017	1 Year
10.	Pre-amplifier	SONOMA	310N	186860	May 27, 2017	1 Year
11.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
12.	Power Sensor	DAER	RPR3006W	15I00041SN045	May 27, 2017	1 Year
13.	Power Sensor	DAER	RPR3006W	15I00041SN046	May 27, 2017	1 Year
14.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	May 27, 2017	1 Year
15.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	May 27, 2017	1 Year
16.	Signal Generator	Agilent	E4421B	MY41000743	May 27, 2017	1 Year
17.	DC Power supply	IVYTECH	IV6003	1601D6030007	May 26, 2017	1 Year
18.	TEMP&HUMI PROGRAMMABLE CHAMBER	Sertep	ZJ-HWHS80 B	ZJ-17042804	Mar. 03, 2017	1 Year

1.8. Measurement Uncertainty

Radiation Uncertainty	:	Ur = 4.1 dB (Horizontal)
		Ur = 4.3 dB (Vertical)
Conduction Uncertainty	:	Uc = 3.4dB

1.9. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, July 31, 2017.

ISED-Registration No.: 8058A-1

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A-1, June 13, 2016.

Test Location

All Emissions tests were performed at
Shenzhen Anbotek Compliance Laboratory Limited. at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

2. Summary of Test Results

Standard Section	Test Item	Result
15.203	Antenna Requirement	PASS
15.207	Conducted Emission	PASS
15.205/15.209/15.231(b)	Spurious Emission	PASS
15.231(c)	20dB Occupied Bandwidth	PASS
15.231(a)	Dwell time	PASS
Remark: “N/A” is an abbreviation for Not Applicable.		

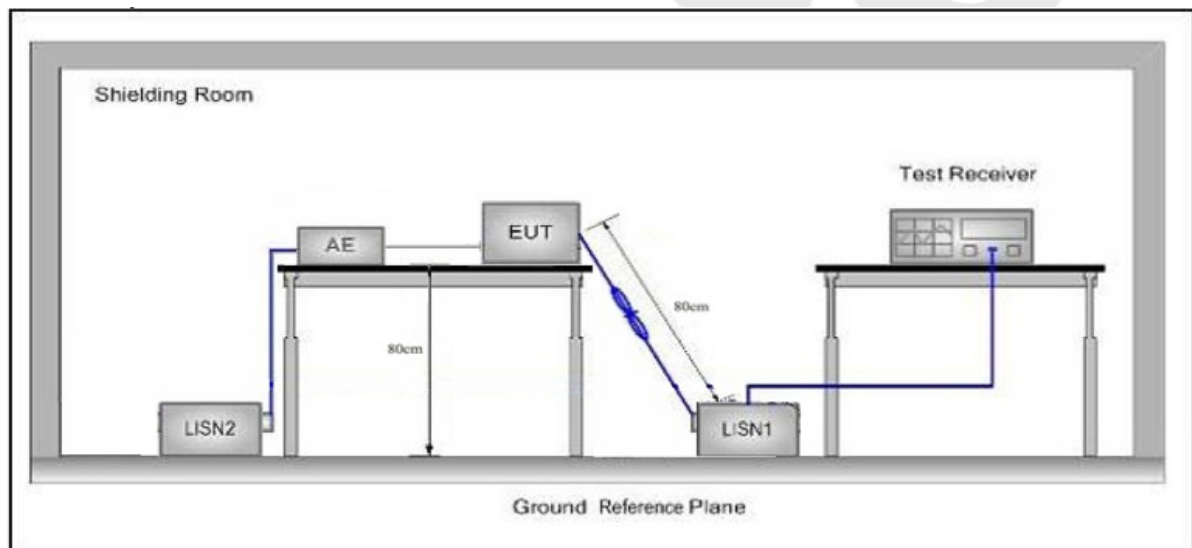
3. Conducted Emission Test

3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207		
Test Limit	Frequency	Maximum RF Line Voltage (dBuV)	
		Quasi-peak Level	Average Level
	150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
	500kHz~5MHz	56	46
	5MHz~30MHz	60	50

Remark: (1) *Decreasing linearly with logarithm of the frequency.
(2) The lower limit shall apply at the transition frequency.

3.2. Test Setup



3.3. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10-2013 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

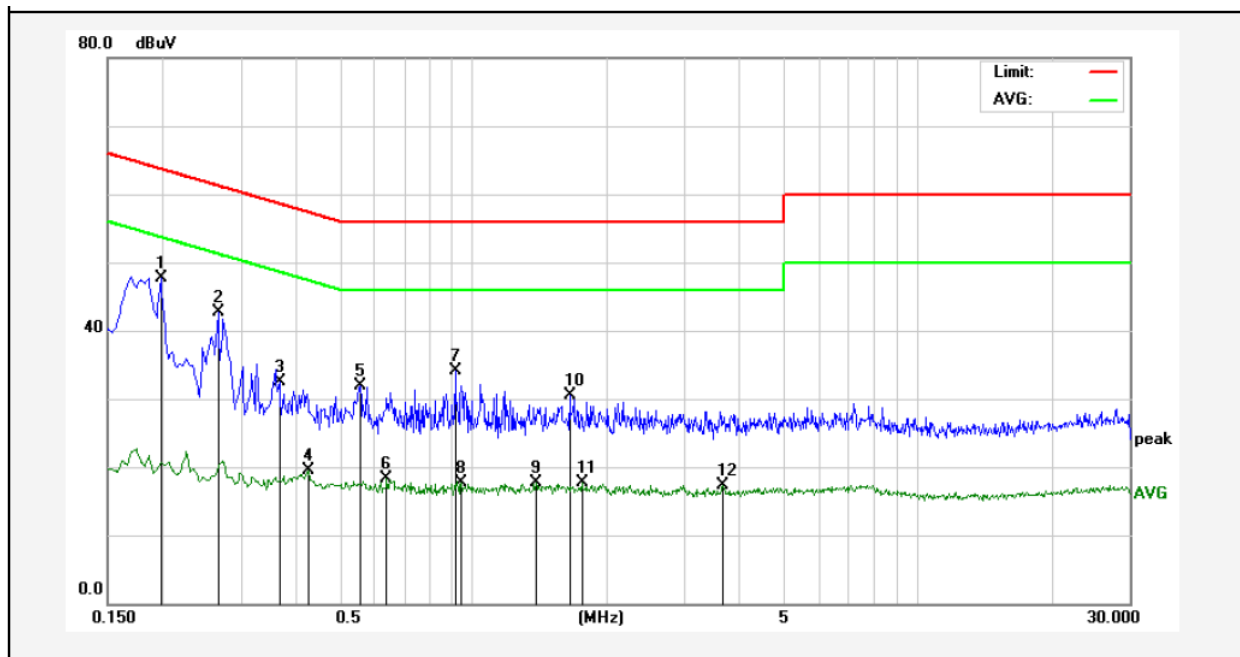
The frequency range from 150kHz to 30MHz is checked.

3.4. Test Data

Please to see the following pages

Conducted Emission Test Data

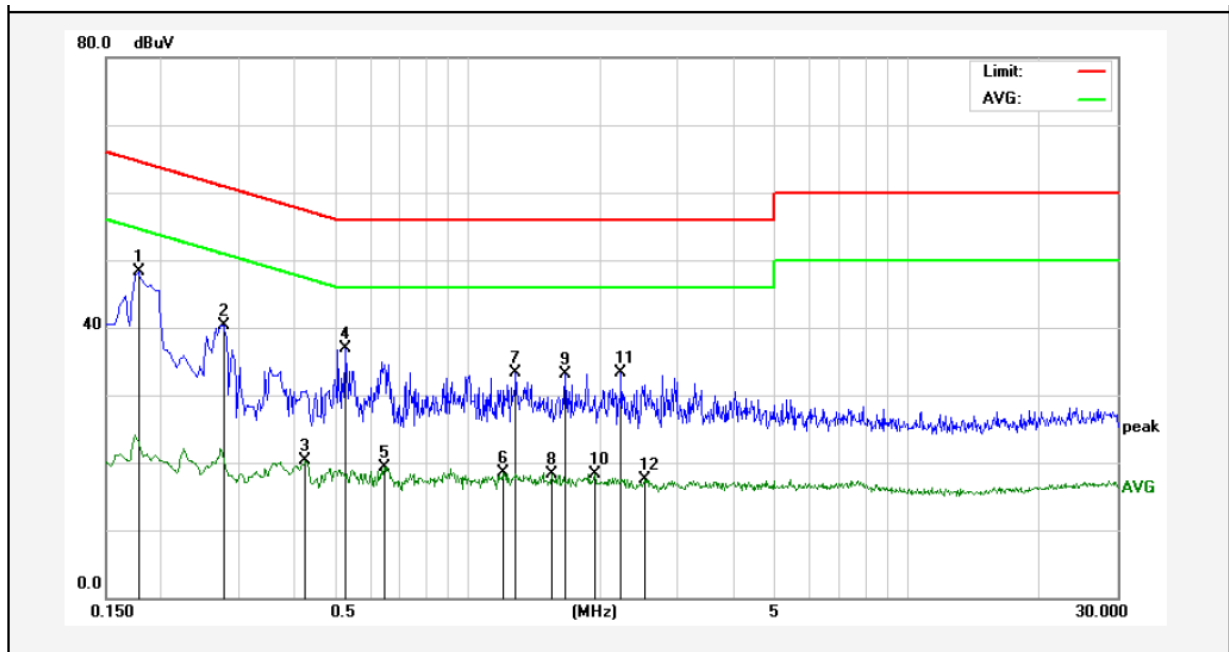
Test Site: 1# Shielded Room
Operating Condition: Keeping TX mode
Test Specification: AC 120V, 60Hz for adapter
Comment: Live Line
Tem.:25℃ Hum.:50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1980	27.76	19.90	47.66	63.69	-16.03	QP	
2	0.2660	22.75	19.89	42.64	61.24	-18.60	QP	
3	0.3660	12.52	19.92	32.44	58.59	-26.15	QP	
4	0.4260	-0.51	19.95	19.44	47.33	-27.89	AVG	
5	0.5580	11.83	20.00	31.83	56.00	-24.17	QP	
6	0.6380	-1.63	20.02	18.39	46.00	-27.61	AVG	
7	0.9100	14.03	20.10	34.13	56.00	-21.87	QP	
8	0.9420	-2.33	20.10	17.77	46.00	-28.23	AVG	
9	1.3820	-2.42	20.13	17.71	46.00	-28.29	AVG	
10	1.6500	10.35	20.13	30.48	56.00	-25.52	QP	
11	1.7580	-2.52	20.14	17.62	46.00	-28.38	AVG	
12	3.6500	-2.80	20.17	17.37	46.00	-28.63	AVG	

Conducted Emission Test Data

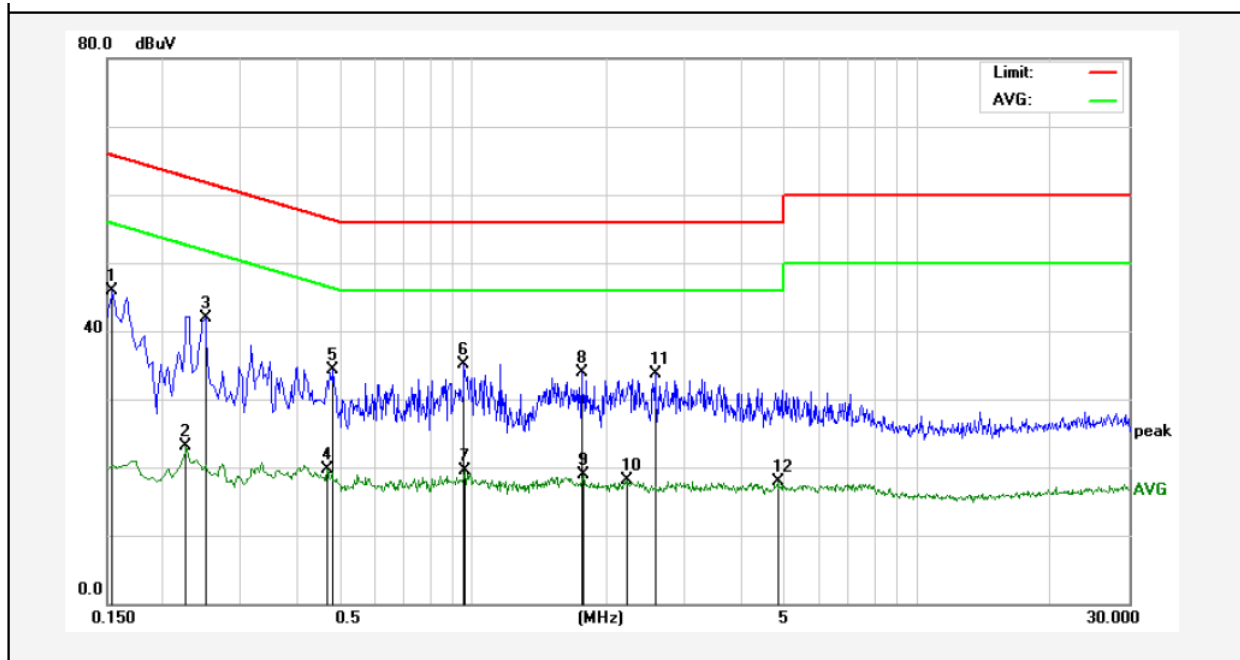
Test Site: 1# Shielded Room
Operating Condition: Keeping TX mode
Test Specification: AC 120V, 60Hz for adapter
Comment: Neutral Line
Tem.:25°C Hum.:50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1780	28.32	19.90	48.22	64.57	-16.35	QP	
2	0.2779	20.47	19.89	40.36	60.88	-20.52	QP	
3	0.4260	0.43	19.95	20.38	47.33	-26.95	AVG	
4	0.5260	16.92	19.99	36.91	56.00	-19.09	QP	
5	0.6460	-0.62	20.02	19.40	46.00	-26.60	AVG	
6	1.2020	-1.56	20.12	18.56	46.00	-27.44	AVG	
7	1.2860	13.13	20.13	33.26	56.00	-22.74	QP	
8	1.5500	-1.76	20.13	18.37	46.00	-27.63	AVG	
9	1.6660	12.92	20.13	33.05	56.00	-22.95	QP	
10	1.9420	-1.91	20.14	18.23	46.00	-27.77	AVG	
11	2.2340	13.08	20.14	33.22	56.00	-22.78	QP	
12	2.5300	-2.66	20.15	17.49	46.00	-28.51	AVG	

Conducted Emission Test Data

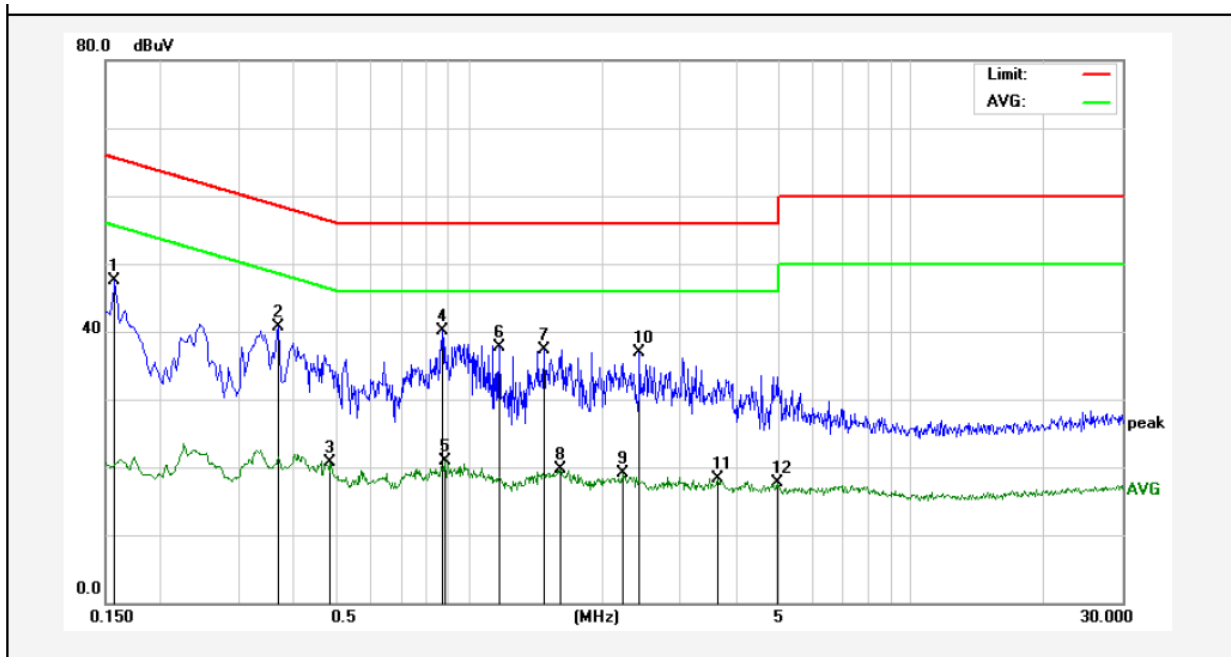
Test Site: 1# Shielded Room
Operating Condition: Keeping TX mode
Test Specification: AC 240V, 60Hz for adapter
Comment: Live Line
Tem.:25°C Hum.:50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1539	26.02	19.90	45.92	65.78	-19.86	QP	
2	0.2260	3.18	19.89	23.07	52.59	-29.52	AVG	
3	0.2500	22.08	19.89	41.97	61.75	-19.78	QP	
4	0.4700	-0.30	19.97	19.67	46.51	-26.84	AVG	
5	0.4860	14.43	19.97	34.40	56.24	-21.84	QP	
6	0.9580	15.03	20.11	35.14	56.00	-20.86	QP	
7	0.9620	-0.53	20.11	19.58	46.00	-26.42	AVG	
8	1.7580	13.76	20.14	33.90	56.00	-22.10	QP	
9	1.7780	-1.26	20.14	18.88	46.00	-27.12	AVG	
10	2.2260	-2.07	20.14	18.07	46.00	-27.93	AVG	
11	2.5700	13.49	20.15	33.64	56.00	-22.36	QP	
12	4.8500	-2.32	20.20	17.88	46.00	-28.12	AVG	

Conducted Emission Test Data

Test Site: 1# Shielded Room
Operating Condition: Keeping TX mode
Test Specification: AC 240V, 60Hz for adapter
Comment: Neutral Line
Tem.:25°C Hum.:50%



No.	Freq. (MHz)	Reading (dBuV)	Factor (dB)	Result (dBuV)	Limit dBuV	Over Limit (dB)	Detector	Remark
1	0.1580	27.53	19.90	47.43	65.56	-18.13	QP	
2	0.3700	20.78	19.92	40.70	58.50	-17.80	QP	
3	0.4860	0.64	19.97	20.61	46.24	-25.63	AVG	
4	0.8700	19.99	20.09	40.08	56.00	-15.92	QP	
5	0.8820	0.85	20.09	20.94	46.00	-25.06	AVG	
6	1.1700	17.67	20.12	37.79	56.00	-18.21	QP	
7	1.4740	17.20	20.13	37.33	56.00	-18.67	QP	
8	1.6100	-0.48	20.13	19.65	46.00	-26.35	AVG	
9	2.2300	-1.06	20.14	19.08	46.00	-26.92	AVG	
10	2.4300	16.73	20.15	36.88	56.00	-19.12	QP	
11	3.6500	-1.81	20.17	18.36	46.00	-27.64	AVG	
12	4.9540	-2.53	20.21	17.68	46.00	-28.32	AVG	

4. Radiation Spurious Emission and Band Edge

4.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.209, 15.205 and 15.231(b)				
Test Limit	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~0.490MHz	2400/F(kHz)	-	-	300
	0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
	1.705MHz-30MHz	30	-	-	30
	30MHz~88MHz	100	40.0	Quasi-peak	3
	88MHz~216MHz	150	43.5	Quasi-peak	3
	216MHz~960MHz	200	46.0	Quasi-peak	3
	960MHz~1000MHz	500	54.0	Quasi-peak	3
	Above 1000MHz	500	54.0	Average	3
		-	74.0	Peak	3
Remark: (1)The lower limit shall apply at the transition frequency. (2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.					

the formulas for calculating the maximum permitted fundamental field strengths are as follows:

for the band 260-470 MHz, $\mu\text{V/m}$ at 3 meters = $41.6667(F) - 7083.3333$.

The maximum permitted unwanted emission level is 20 dB below the maximum permitted fundamental level

Emission Level (dBuV/m)=20log Emission Level($\mu\text{V/m}$)

The field strength of emission limits have been calculated in below table:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBuV/m)@3m
433.92	80.82 (AVG)
433.92	100.82 (Peak)

4.2. Test Setup

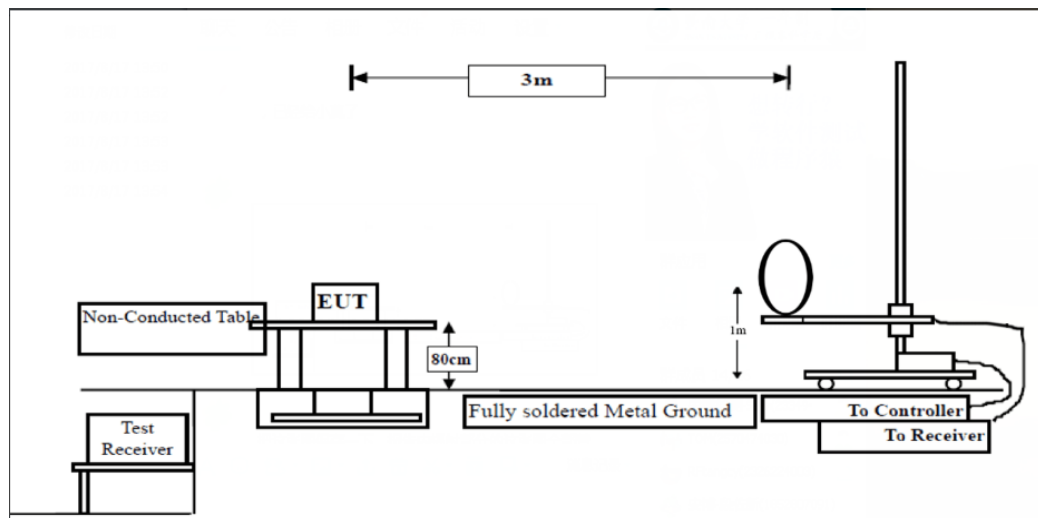


Figure 1. Below 30MHz

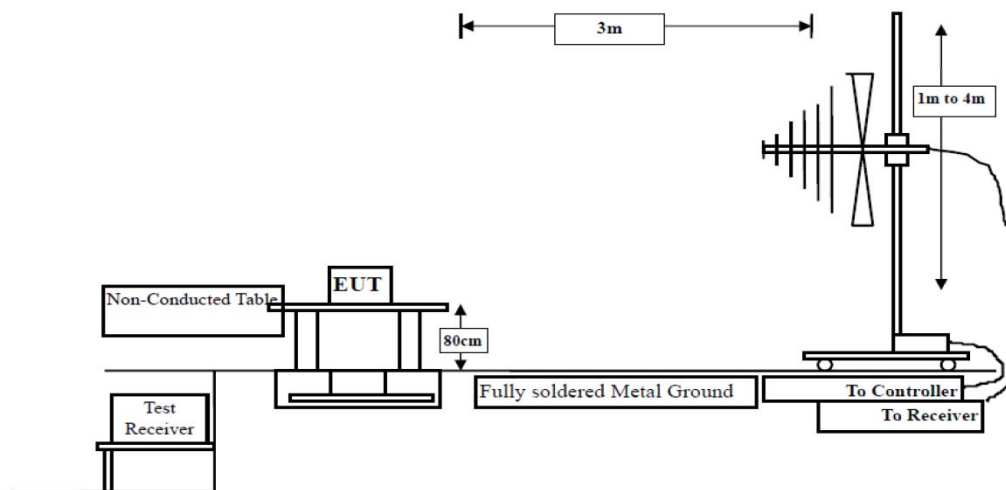


Figure 2. 30MHz to 1GHz

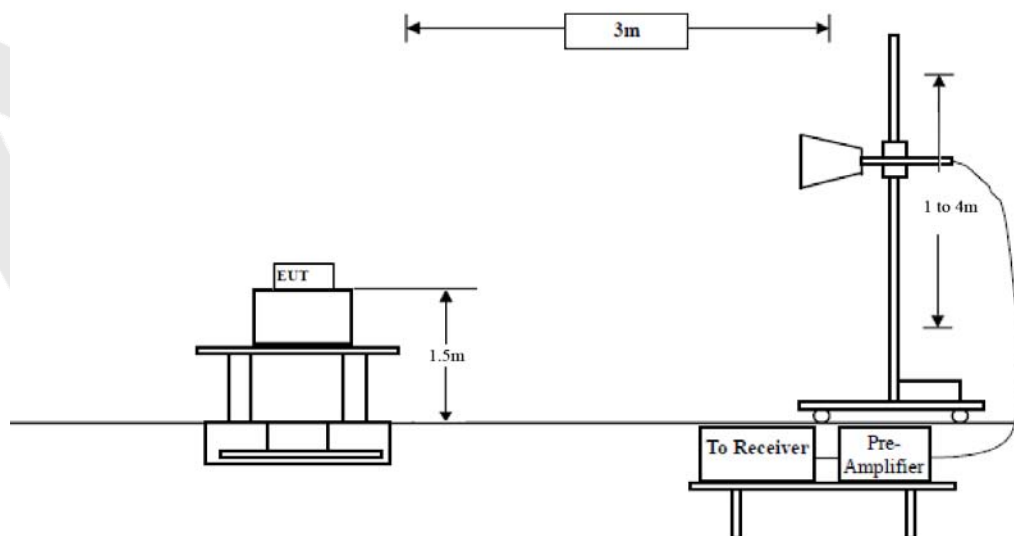


Figure 3. Above 1 GHz

4.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane.

For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW =1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9KHz, VBW =30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW =300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For above 1GHz, Set the spectrum analyzer as:

RBW =1MHz, VBW =1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW =1MHz, VBW =10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.

4.4. Test Data

PASS

During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the worst case.

The test results of 9kHz-30MHz and above 18000MHz are attenuated more than 20dB below the permissible limits, so the results don't record in the report.

Test Results (Fundamental 433.92MHz)

Frequency	Antenna	Reading	Cable Loss	Ant Factor	Amplifier	Duty cycle Factor	Results	Limits	Det.
(MHz)	Pol.	(dBuV/m)	(dB)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	Mode
433.92	H	94.35	1.52	12.64	31.45	-	77.06	100.82	PK
433.92	H	94.35	1.52	12.64	31.45	-9.12	67.94	80.82	AV
433.92	V	97.04	1.52	12.64	31.45	-	79.75	100.82	PK
433.92	V	97.04	1.52	12.64	31.45	-9.12	70.63	80.82	AV

Remark :

1. Result = Reading + Cable Loss +Ant Factor –Amplifier + Duty cycle Factor

2. Pulse Desensitization Correction Factor

Pulse Width (PW)= 1.667ms

$2/PW=2/1.667=1.20\text{kHz}$

$RBW(1000\text{kHz}) > 2/PW (1.20\text{Hz})$

Therefore PDCF is not needed.

3. Duty Cycle Factor

Calculate Formula:

$AV=PEAK +Duty\ Cycle\ Factor$

$Duty\ Cycle\ Factor=20\log(Duty\ Cycle)$

$Duty\ Cycle= on\ time/ period$

Test Data:

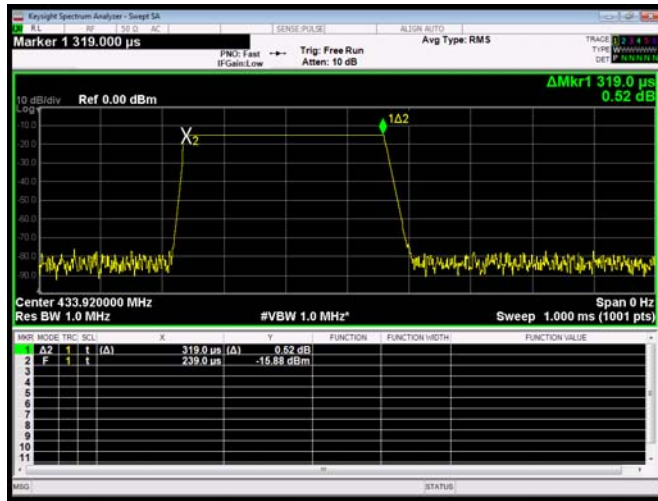
$T\ on\ time=0.319\text{ms}*14+1.022\text{ms}*11=15.708\ ms$

$T\ period=44.90\text{ms}$

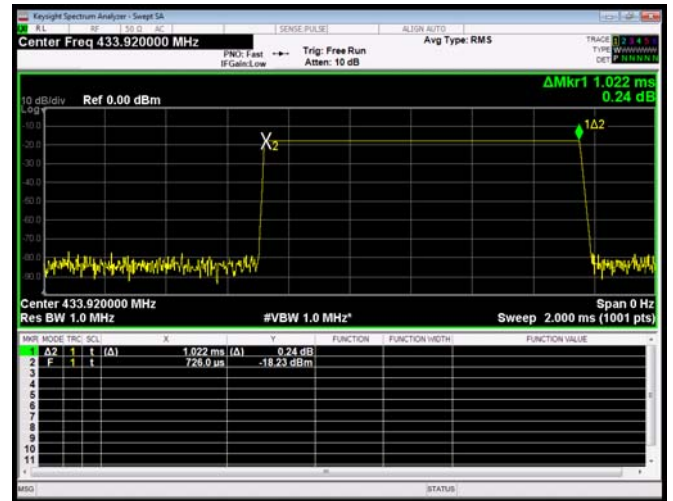
$Duty\ Cycle=34.98\%$

$Duty\ Cycle\ Factor =20\log(Duty\ Cycle)=-9.12$

T on time slot-1



T on time slot-2



T period



Test Results (Harmonics Emissions)

Frequency	Antenna	Reading	Cable Loss	Ant Factor	Amplifier	Duty cycle Factor	Results	Limits	Det
(MHz)	Pol.	(dBuV/m)	(dB)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	Mode
867.84	H	74.58	1.92	12.71	31.72	-	57.49	80.82	PK
867.84	H	74.58	1.92	12.71	31.72	-9.12	48.37	60.82	AV
867.84	V	76.60	1.92	12.71	31.72	-	59.51	80.82	PK
867.84	V	76.60	1.92	12.71	31.72	-9.12	50.39	60.82	AV
1301.76	H	63.77	2.38	21.43	32.45	-	55.13	74	PK
1301.76	H	63.77	2.38	21.43	32.45	-9.12	46.01	54	AV
1301.76	V	65.63	2.38	18.56	32.45	-	54.12	74	PK
1301.76	V	65.63	2.38	18.56	32.45	-9.12	45.00	54	AV

Remark :

1. Result = Reading + Cable Loss +Ant Factor –Amplifier + Duty cycle Factor
2. Pulse Desensitization Correction Factor
Pulse Width (PW)= 1.667ms
 $2/PW=2/1.667=1.20\text{kHz}$
 $RBW(1000\text{kHz}) > 2/PW (1.20\text{Hz})$
Therefore PDCF is not needed.
3. Duty Cycle Factor=-9.12

Test Results (Radiated Emission)

Frequency	Antenna	Reading	Cable Loss	Ant Factor	Amplifier	Results	Limits	Margin	Det.
(MHz)	Pol.	(dBuV/m)	(dB)	(dB)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	Mode
54.05	H	56.56	1.03	11.15	40.74	28.00	40	-12.00	QP
127.23	H	59.77	1.24	12.24	40.48	32.77	43.5	-10.73	QP
732.14	H	61.87	1.67	13.75	41.27	36.02	46	-9.98	QP
54.05	V	55.04	1.03	11.15	40.74	26.48	40	-13.52	QP
127.23	V	60.53	1.24	12.24	40.48	33.53	43.5	-9.97	QP
732.14	V	62.15	1.67	13.75	41.27	36.30	46	-9.70	QP

Remark:

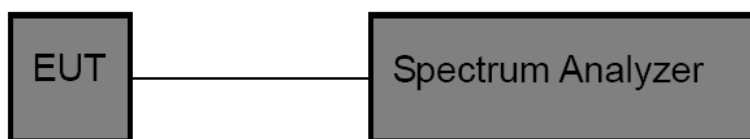
1. Results = Reading + Cable Loss +Ant Factor –Amplifier

5. 20DB Occupy Bandwidth Test

5.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.231 (c)				
Test Limit	According to FCC Part 15.231(c), The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70MHz and below 900MHz. For devices operating above 900MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20dB down from the modulated carrier. So the emission bandwidth limits have been calculated in below table: <table> <tr> <th>Fundamental Frequency</th><th>Limit of 20dB Bandwidth</th></tr> <tr> <td>433.92 MHz</td><td>$433920 \times 0.0025 = 1084.80 \text{ kHz}$</td></tr> </table>	Fundamental Frequency	Limit of 20dB Bandwidth	433.92 MHz	$433920 \times 0.0025 = 1084.80 \text{ kHz}$
Fundamental Frequency	Limit of 20dB Bandwidth				
433.92 MHz	$433920 \times 0.0025 = 1084.80 \text{ kHz}$				

5.2. Test Setup



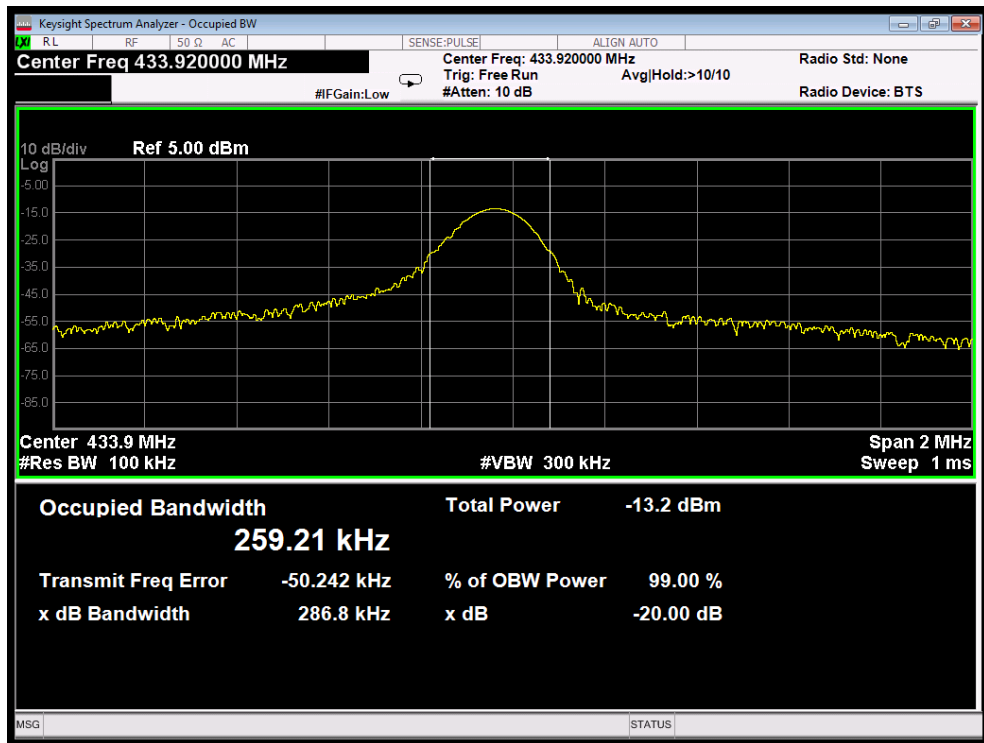
5.3. Test Procedure

1. Place the EUT on the table and set it in the continuously transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzer as:
 RBW = 100kHz, VBW $\geq 3 \times$ RBW = 300kHz,
 Span= 2MHz
 Detector= Peak
 Trace mode= Max hold.
 Sweep- auto couple.
4. Mark the peak frequency and -20dB (upper and lower) frequency.
5. Repeat until all the rest channels are investigated.

5.4. Test Data

Test Item	:	20dB Bandwidth	Test Mode	:	Continuously transmitting
Test Voltage	:	DC 3.7V	Temperature	:	24°C
Test Result	:	PASS	Humidity	:	55%RH

Freq. (MHz)	Modulation Type	Bandwidth (kHz)	Limit (kHz)	Results
433.92	ASK	286.8	<1084.80	PASS



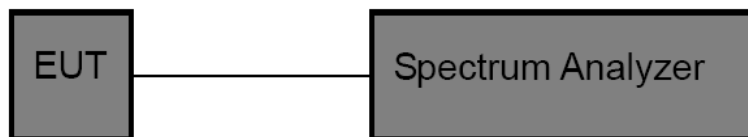
433.92MHz

6. Dwell Time Test

6.1. Test Standard and Limit

Test Standard	FCC Part 15.231(a)(1)
Test Limit	According to FCC Part 15.231(a)(1), A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released

6.2. Test Setup



6.3. Test Procedure

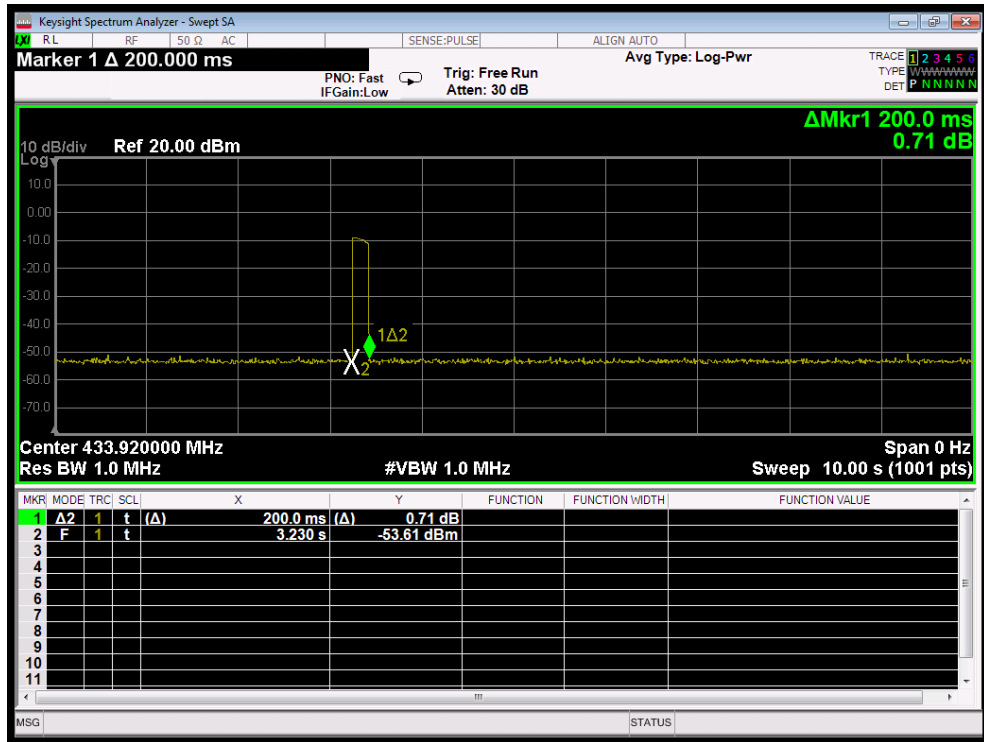
1. Place the EUT on the table and set it in continuously transmitting mode. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
2. Set the spectrum analyzer as
RBW=1000kHz, VBW= 1000 kHz, Span= 0Hz, Sweep Time= 4 Seconds.
3. Record the Delta mark time.

6.4. Test Data

Test Item	: Dwell Time	Test Mode	: Continuously transmitting
Test Voltage	: DC 3.7V	Temperature	: 24°C
Test Result	: PASS	Humidity	: 55%RH

Test Mode	Transmitting time(s)	Limit(s)	Result
ASK mode	0.200	≤5	PASS

Please refer the following plot.



Dwell Time

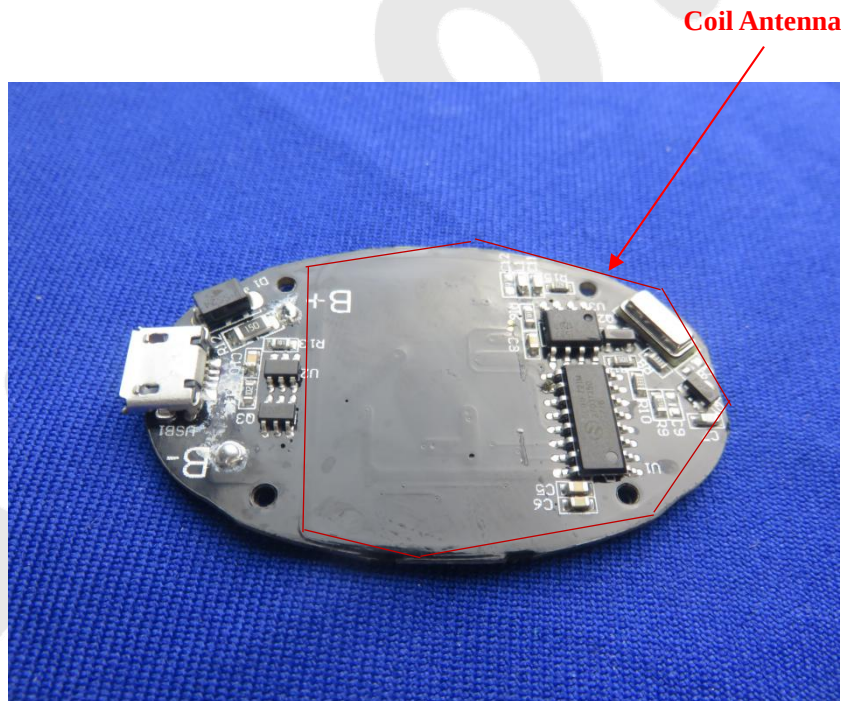
7. Antenna Requirement

7.1. Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203
Requirement	1) 15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. Antenna requirement must meet at least one of the following: 1) Antenna must be permanently attached to device. 2) The antenna must use a unique type of connector to attach to the device. 3) Device must be professionally installed. The installer shall be responsible for ensuring that the correct antenna is employed by the device.

9.2. Antenna Connected Construction

The RF antenna is a Coil antenna which permanently attached, and the best case gain of the antenna is 1 dBi. It complies with the standard requirement.

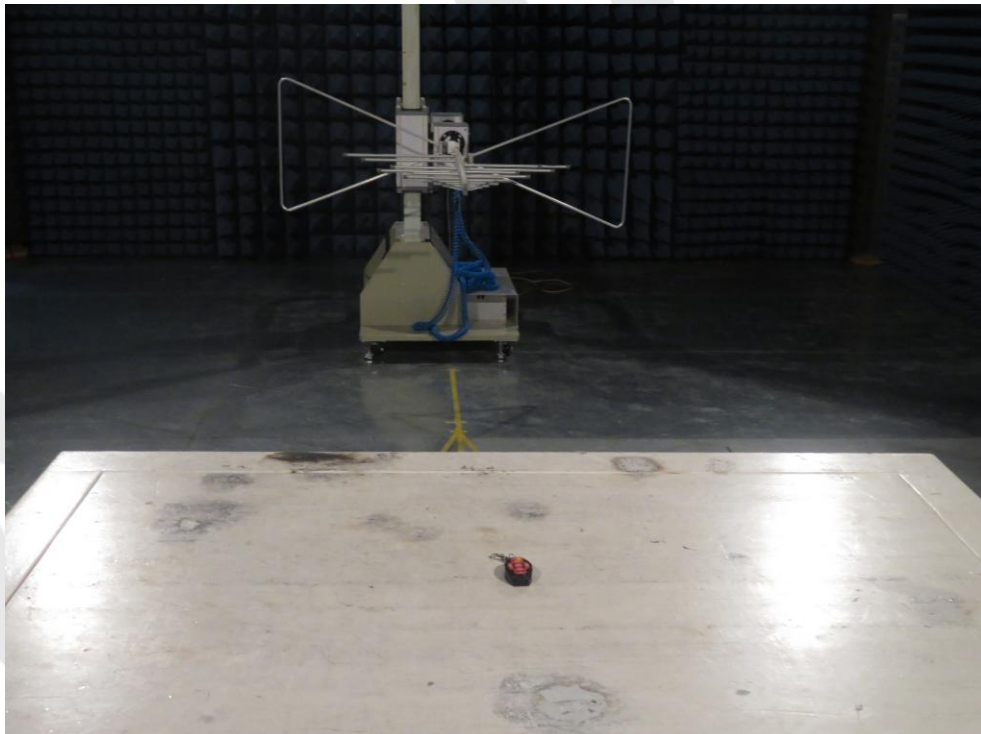


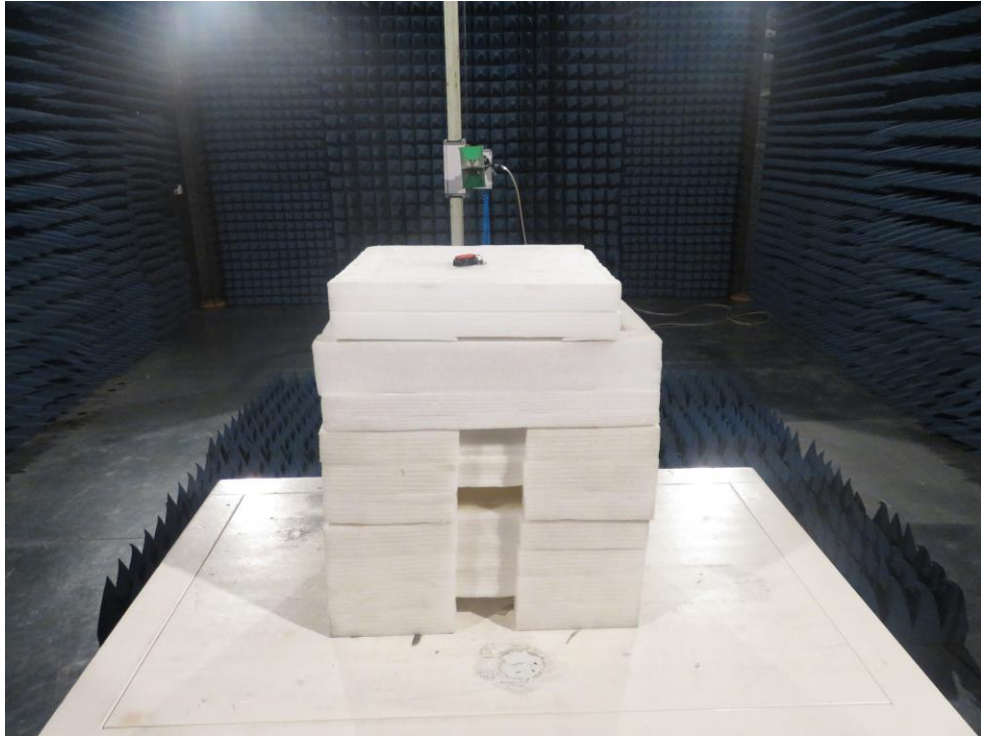
APPENDIX I -- TEST SETUP PHOTOGRAPH

Photo of Conducted Emission Measurement



Photo of Radiated Emission Measurement

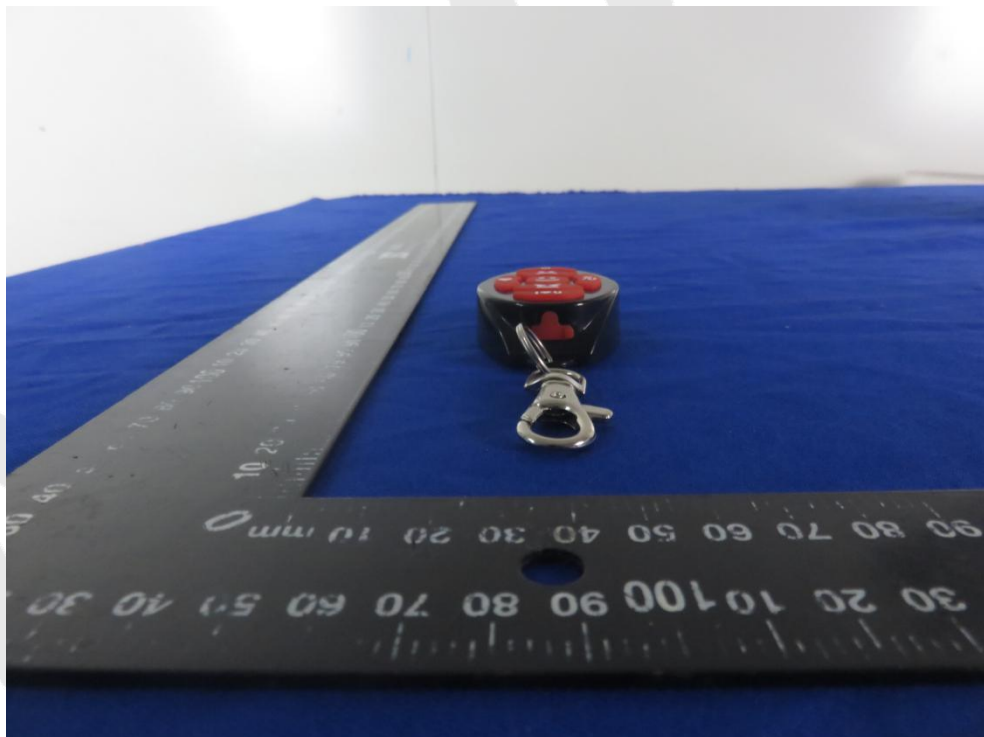
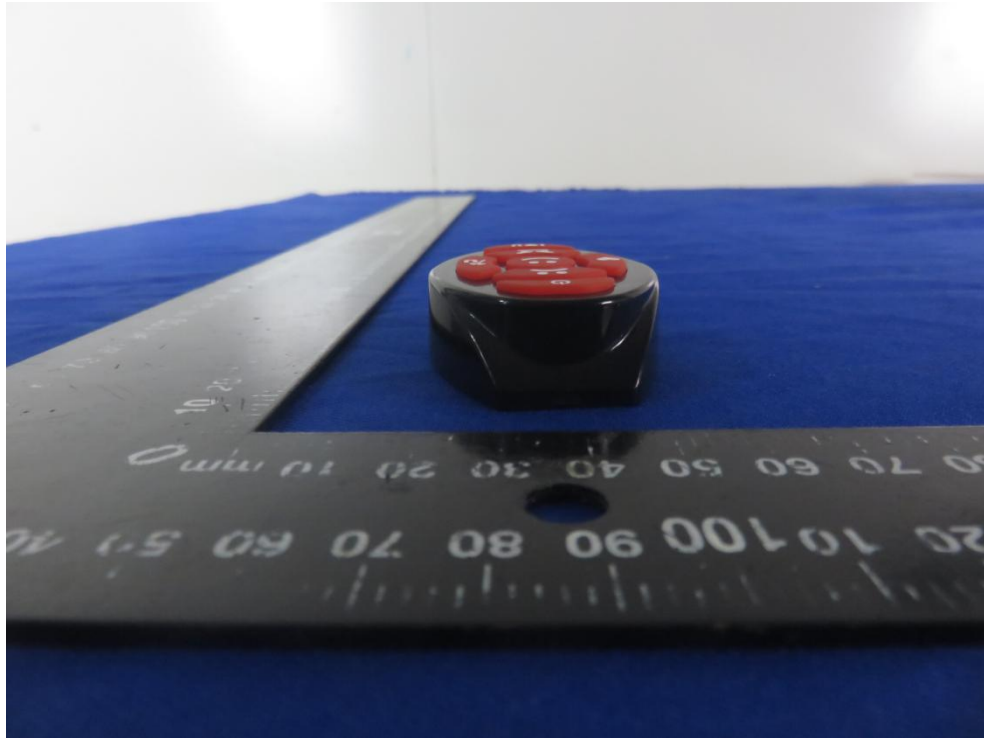




APPENDIX II -- EXTERNAL PHOTOGRAPH







APPENDIX III -- INTERNAL PHOTOGRAPH

